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Why do bad balls get wickets? The role of congruent and incongruent information in anticipation

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Skilled anticipation is underpinned by the use of kinematic and contextual information. However, few researchers have examined what happens when contextual information suggests an outcome that is different from the event that occurs. We predicted that when contextual information is *congruent* with the eventual outcome then anticipation would be facilitated, particularly in skilled performers. In contrast, when contextual information is *incongruent* with the following event, we hypothesised this leads to a confirmation bias on kinematic information and results in decreased anticipation accuracy. We expected the effect to be larger in skilled performers who are more able to utilize context. Altogether, 18 skilled and 18 less-skilled cricket batters anticipated deliveries from bowlers using a temporally occluded video-based task. A consistent level of contextual information was presented across all trials, however, by manipulating event outcome, we created conditions whereby contextual information and event outcome were either congruent or incongruent with one another. There was a significant skill by condition interaction ($p < 0.05$). The skilled group anticipated significantly more accurately than the less-skilled group on the congruent trials. Both groups anticipated less accurately on incongruent trials but the skilled participants were more negatively affected than the less-skilled group. When event outcome is incongruent with the contextual information that precedes it, the ability of skilled performers to anticipate is negatively affected. Skilled performers place greater emphasis on contextual information and confirmation bias potentially negates the use of the kinematic information that emerges later. Findings enhance understanding of anticipation and suggest that all sources of contextual and kinematic information should be included in training environments.